



Original Article

The Anxiety and Fear of COVID-19 Pandemic at the First Year in Dentists Working in Specialist Dental Centers

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ABSTRACT

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Background: COVID-19 pandemic has influenced all life aspects; Dental staff, like other healthcare providers, may be exposed to COVID-19 as part of their work and its psychological impacts on healthcare workers should not be ignored

Objectives: To assess the anxiety, and fear from COVID-19 pandemic in dentists working in specialist dental centers: sample the Al-Resafa health directorate, and its relation between the anxiety, and COVID-19 fear with some of their demographic variables

Subjects and Methods: A cross-sectional study was conducted on 2nd Jan. to 14th Feb. 2021, by an electronic version of questionnaire through Google-form; the questionnaire was formed based on Mental-Health-American-Organization (MHAO) for anxiety test & the English-Version of the Fear of COVID-19 Scale. Analysis of data by using SPSS, Frequencies, percentages chi-square test had calculated; P-value considered significant if it's ≤ 0.05 .

Results: The response rate was 90.43%, most of them aged less than 30 years old, female 356(60.8%), married status 295(50.3%), Rotator 297(50.7%). The study revealed that moderate anxiety 115(19.6%), moderate and mild fear of COVID-19 in 275(46.9%), severe in 120(20.5%) of them. there is a significant relation between gender & anxiety, marital status & No. of children with COVID-19 Fear.

Conclusion: One-fifth of dentists had moderate anxiety, and half of them had a mild fear of COVID-19 & one-fifth had a severe fear of COVID-19.

Introduction

Severe illness outbreaks have been identified throughout history, but the arrival of disease 2019 coronavirus disease (COVID-19) has been deadly and devastating, posing a threat to researchers and healthcare systems. Dental care professionals and students have been

identified as having a high risk of exposure by the occupational Safety and Health Administration. (1)

COVID-19 may be transmitted from person to person by tiny droplets from the nose or mouth, so dental workers, like other healthcare professionals, may be at risk.

In dental practice, COVID-19 can be transmitted via airborne aerosols generated during dental procedures, contact spread, and contaminated surfaces spread are all possible routes of transmission, dental practice. Furthermore, dental employees may be stretched among their professional roles as health care workers and their personal roles as family members (e.g., husbands). (2)

SARS-CoV-2 infection isn't the only source of psychological distress during the COVID-19 pandemic. It could also be attributed to social, cultural, and environmental factors, all of which could exacerbate the conflict. (3)

However, it is important not to overlook the psychological impact on healthcare employees. There is no question that healthcare professionals on the frontlines who offer care and treatment to patients face a tremendous psychological toll. More attention and knowledge of the outbreak's psychological implications should be provided. (4)

Every aspect of life has been affected by the novel coronavirus (COVID-19) pandemic. Many people changed their lifestyles as a result of the disease's extremely infectious existence and fatal outcomes. The (COVID-19) pandemic poses a particular threat to dental professionals. They are also more likely to experience anxiety and fear as a result of the increased risk of infection during dental care, particularly during pandemics. Social distancing, avoiding public spaces, hand washing more often, and wearing face masks in public was among the lifestyle changes. These shifts were often linked to stressors including temporary unemployment, working from home, homeschooling children, lack of physical interaction with other family members, friends, and coworkers, and fears that loved ones and significant others could be contaminated. (5)

Dentists who previously treated patients without gloves, masks, or eye protection were confronted with new situations. COVID-19 increases the awareness of dental aerosols and pushes dentists to review safety standards and to innovate ways to safely deliver care for patients. (6)

Generalized Anxiety Disorder was used to measure the psychological impact of COVID-19. Nearly 85% of dentists reported being concerned about developing the infection during a clinical operation. According to the findings, 9% of respondents had serious anxiety. To summarize, the COVID-19 emergency is having a significant negative impact on dentists' practice. (7)

Psycho-physiological symptoms, on the other hand, occurred later and lasted longer, resulting in drastic and profound impacts. (8)

During the extreme acute respiratory syndrome (SARS) outbreak, the tension between altruism and professional responsibility, on the one hand, and apprehension and guilt for potentially endangering their relatives to a highly infectious agent, on the other hand, was a huge burden for many medical staff members, according to Maunder et al. (2).

this study done to assess anxiety, and fear from COVID-19 pandemic in dentists working in specialist dental centers- sample the Al-Resafa health directorate, and to find the relation between the presents of anxiety & fear from the COVID-19 pandemic in them with some of their demographic variables.

Subjects and Methods

A cross-sectional study was conducted on 2nd Jan. to 14th Feb. 2021, by an electronic version of questionnaire through Google-form, with facilitating order delivered to all the specialist dental centers of Al-Resafa health directorate, and with the questionnaire link.

Included criteria: Any dentists working in specialist dental centers of Al-Resafa health directorate, and accept to participate in this study can be enrolled in this study once in spite whether had COVID-19 infection or not; and without excluded criteria.

The study protocol has been approved by the research committee of Al-Resafa health by using the code of ethics of the Ministry of Health in Iraq. The objectives of the study were explained to all the participants and that data will be confidential, by consent message at the beginning of the electronic questionnaire.

Researcher's mission facilitating order delivered to all the specialist dental centers of Al-Resafa health directorate, mention the electronic questionnaire link.

Questionnaire:

The questionnaire was formed based on: anxiety test from Mental Health American Organization (MHAO) (9), and Fear of COVID adapted from the English Version of the Fear of COVID-19 Scale (FCV-19S) (10)

The questionnaire consists of four parts: the first demographic features consist of seven questions (age, gender, job, and years of experience, marital status, children number, & presence of chronic diseases or not).

The second part was diagnosis with COVID-19 consist of three questions (the participant and /or their family diagnostic procedure of COVID-19, the rank of their diagnosis with COVID-19 with their family members, is there any Psychological support, Social support, and financial support and from whom)

The third part consists of the anxiety test consist of seven questions (Feeling nervous, anxious, or on edge, Not being able to stop or control worrying, Worrying too much about different things, Trouble relaxing, Being so restless that it is hard to sit still, Becoming easily annoyed or irritable, Feeling afraid, as if something awful might happen).

The fourth part fear from Coronavirus-19 consists of seven questions (I am most afraid of coronavirus-19, It makes me uncomfortable to think about coronavirus-19, My hands become clammy when I think about coronavirus-19, I am afraid of losing my life because of coronavirus-19, Coronavirus-19 watching news & stories on social media make me nervous or anxious, I cannot sleep because I am worried about getting coronavirus-19, and My heart races or palpitates when I think about getting coronavirus-19.)

Coding

Anxiety: 7 questions answered as (Never= 1, rarely=2, sometimes=3, mostly=4, always=5) so it's coded as" No anxiety (7-13), Mild anxiety (14-20), Moderate anxiety (21-27), Severe anxiety (28-35)"

COVID-19 FEAR: 7 questions answered as (Yes =2, no=1) so it's coded as "No fear (all 7 is no), mild fear (8-10), severe fear (11-14)"

Data collection procedure:

Data were collected by an electronic version of the questionnaire through the Google-form site on

<https://forms.gle/Vjwsdd4PpKKypJ7N6>.

The researcher had sent the questionnaire to all dentists working in specialist dental centers of the Al-Resafa health directorate, through facilitate-letter through the human resources and training department, also through the oral-dental division, and the response rate as appeared in the figure (1).

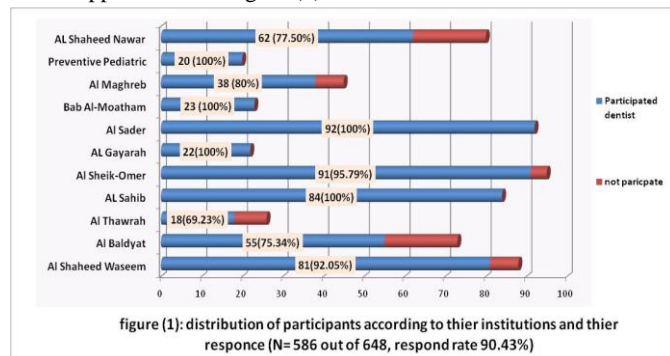


figure (1): distribution of participants according to their institutions and their response (N= 586 out of 648, respond rate 90.43%)

Statistical analysis Outcomes and procedures:

The answers were downloaded from the electronic form of the Questionnaire (Google-form) to the computer as an excel file and imported to SPSS ver. 23 to be analyzed. Analysis of data by using SPSS, Frequencies, percentages ANOVA test had calculated; P-value considered significant if it's ≤0.05.

Results

A total of 11 specialist dental centers of the Al-Resafa health directorate represent 586 dentists enrolled in this study with a response rate of 90.43%, most of them aged less than 30 years old, female 356(60.8%), married status (295)(50.3%), Rotator 297(50.7%), with less than five years of experience 357(60.9%), one-three children 219(37.4%), most of them free from chronic disease, the highest percentage chronic disease present is osteoporosis&/or Vit D deficiency 158(27.0%), orthopedic Disease 101(17.2%), while psychological disease present in only 21(3.6%). (Table 1)

Table 1: Distribution of participants according to their age, Gender, Job, Years of experience, marital status, and Children number:

	Frequency	Percentage
	N=586	%
Age		
<30 yr	363	61.9
30-39 yr	134	22.9
40-49	63	10.8
≥50 yr	26	4.4
Gender		
female	356	60.8
male	230	39.2
Job		
Rotator	297	50.7

	Frequency	Percentage
	N=586	%
Training dentist	40	6.8
Certificated dentist	65	11.1
Permanent dentist	27	4.6
GP dentist	14	2.4
Master dentist	77	13.1
Senior dentist	66	11.3
Years (yr) of experience		
≤5 year	357	60.9
6-10 yr	83	14.2
11-15 yr	56	9.6
16-20	36	6.1
21-25	25	4.3
≥25 yr	29	4.9
Marital status		
single	282	48.1
married	295	50.3
Previous married	9	1.5
not married so no children	283	48.3
Children number		
married but no child yet	63	10.8
one-three children	219	37.4
four and above	21	3.6
Osteoporosis/ vitamin D deficiency	158	27.0%
Ortho disease	101	17.2%
Asthma/ Chronic obstructive pulmonary disease	55	9.4%
chronic diseases presence		
Hypertension	44	7.5%
Psychological disease	21	3.6%
Heart disease	16	2.7%
Diabetes Miletus	9	1.5
Cancer	4	0.70%
Other (thyroid, skin, neurological, est.)	31	5.3%

Most of the participated dentist (infected or not) did not receive psychological support 314 (53.6%) or social support 329(56.1%) and mostly no financial support 545(93.0%), while most who received support was from their family, relatives, and friends {154 (26.3%), 206(35.2 %), 32 (5.5%) consequently}. (Table 2).

Table 2: Distribution of participants according to from who gete Psychological support, Social support, and financial support

	F	%
Psychological support		
No psychological support	314	53.6
family, relative, Neighbors	154	26.3
mixed without governmental	73	12.5
friends /social media friends	26	4.4
mixed with governmental	9	1.5
governmental	8	1.4
Psychiatrist	2	0.3
Social support		
No social support	329	56.1
Family, relative, neighbors	206	35.2
Friends and social media friends	23	3.9
Mixed with governmental	14	2.4

	F	%
Governmental	7	1.2
*NGO & Religious groups	5	0.9
Mixed without governmental	2	0.3
Financial support		
No Financial support	545	93.0
family, relative, neighbors	32	5.5
governmental	6	1.0
friends and social media		
friends	3	0.5
Total	586	100.0

*NGO= nongovernmental organizations

The study revealed that 268(45.73%) had been diagnosed with covid-19 by nasal swab for polymerase chain reaction (PCR test), 187 of them have confirmed it with rapid test also, and 141 of them additional confirm by computed tomography scan (CT scan) for lung for follow-up. (Figure 2)

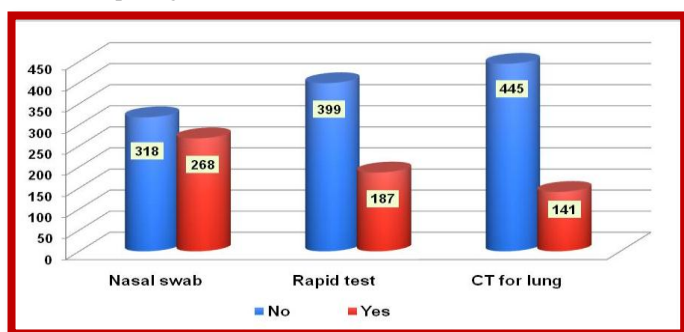


Figure:2 Distribution of participants according to them &/or their family diagnostic procedure of COVID-19

A hundred dentists (37.31%) announced that they were not the first covid infection in their families, and 98(36.57%) had infected at the same time with their family, and only 70(26.12%) they were the first covid -19 infection in their family. (Figure 3)

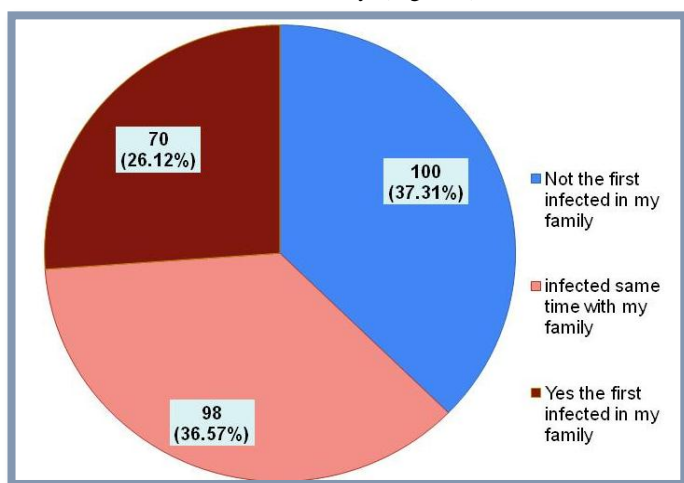


Figure:3 Distribution of participants according to the rank of their diagnosis with COVID-19 with their family members (N=268)

Most participants answered with (never) in question about anxiety, "Being so restless", "Becoming easily annoyed or irritable", "Feeling afraid", and "Avoid activities or situations because they

remind you of a stressful experience from the past?" (189, 329, 207, 206 correspondingly), while most of them answer with sometimes about "Not being able to stop or control worrying"235, Worrying too much about different things"213, and Trouble relaxing 199, as it's appeared in the table (3).

Table 3: Distribution of participants according to anxiety and post-traumatic stress syndrome

Anxiety questions	Frequency	Percent	
Feeling nervous, anxious, or on edge	never	189	32.3
	rarely	131	22.4
	sometimes	177	30.2
	mostly	60	10.2
	always	29	4.9
Not being able to stop or control worrying	never	114	19.5
	rarely	81	13.8
	sometimes	235	40.1
	mostly	105	17.9
	always	51	8.7
Worrying too much about different things	never	156	26.6
	rarely	106	18.1
	sometimes	213	36.3
	mostly	76	13.0
	always	35	6.0
Trouble relaxing	never	169	28.8
	rarely	128	21.8
	sometimes	199	34.0
	mostly	60	10.2
	always	30	5.1
Being so restless that it is hard to sit still	never	329	56.1
	rarely	114	19.5
	sometimes	108	18.4
	mostly	18	3.1
	always	17	2.9
Becoming easily annoyed or irritable	never	207	35.3
	rarely	118	20.1
	sometimes	160	27.3
	mostly	71	12.1
	always	30	5.1
Feeling afraid, as if something awful might happen	never	261	44.5
	rarely	91	15.5
	sometimes	144	24.6
	mostly	56	9.6
	always	34	5.8

In concern of fear from COVID-19, mostly answered with "no" (456, 549, 404, 538, and 463) only question about "It makes me uncomfortable to think about COVID -19" 302(51.5%), and "COVID-19 watching news & stories on social media make me nervous or anxious" were answered with "yes" 294(50.20%). (Table 4).

Table 4: Distribution of participants according to fear of COVID-19 question:

	no	%	yes	%
I am most afraid of COVID19.	456	77.8	130	22.2
My hands become clammy when I think about COVID 19	549	93.7	37	6.3
I am afraid of losing my life because of COVID -19.	404	68.9	182	31.1
I cannot sleep because I am worried about getting COVID19.	538	91.8	48	8.2
My heart races or palpitates when I think about getting COVID -19.	463	79.0	123	21.0
It makes me uncomfortable to think about COVID -19.	284	48.5	302	51.5
COVID -19 watching news & stories on social media makes me nervous or anxious.	292	49.8	294	50.2

The study revealed that only 45(7.7%) of the participant dentists had moderated depression, and only one with severe depression, while moderate anxiety present in 115(19.6%), moderate PTSD 111(18.9%), and 26(4.4%) had severe anxiety and severe PTSD, and at last, the fear of COVID 19 was mild in 275(46.9%) of dentists and severe in 120(20.5%) of them. (Figure 4 & 5).

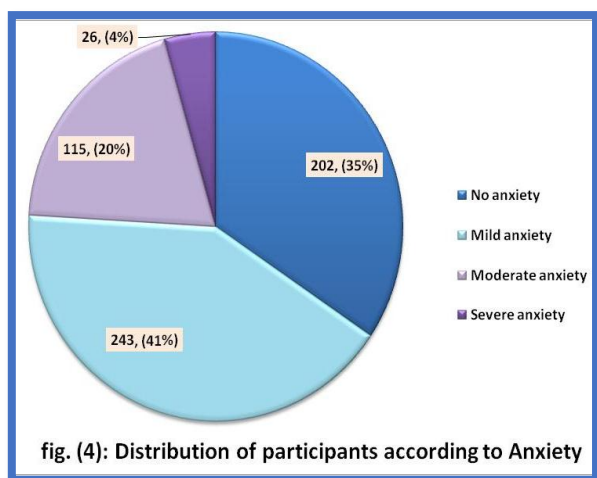


fig. (4): Distribution of participants according to Anxiety

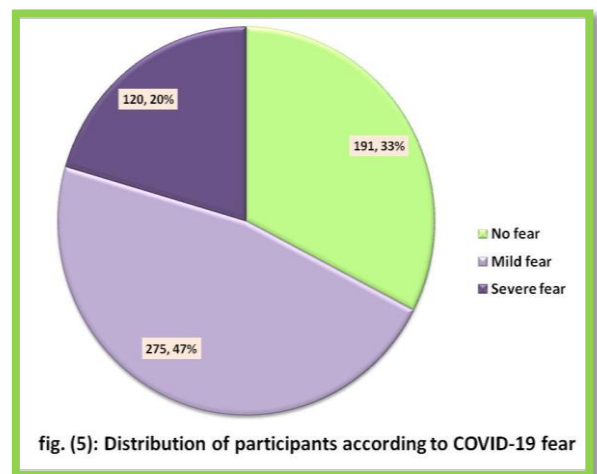


fig. (5): Distribution of participants according to COVID-19 fear

Through the chi-square test; the study found there is a significant relationship between gender and anxiety. Also, there is a significant relation between COVID-19 FEAR and marital status, No. of children. All other (Table 5 & table 6).

Table 5: Relation between participants' demographic variables and anxiety

		anxiety				Total	P value		
		no anxiety	mild	moderate	sever				
age	<30 yr	131	139	73	20	363	0.523		
	30-39 yr	42	61	28	3	134			
	40-49	22	28	11	2	63			
	≥50 yr	7	15	3	1	26			
gender	female	110	150	72	24	356	0.002		
	male	92	93	43	2	230			
job	rotator	112	113	53	19	297	0.158		
	training dentist	13	17	8	2	40			
	certificated dentist	18	32	14	1	65			
	permanent dentist	9	7	11	0	27			
	GP dentist	3	6	5	0	14			
	master dentist	25	39	11	2	77			
	senior dentist	22	29	13	2	66			
	Marital status	single	115	104	51	12		282	0.082
		married	83	136	62	14		295	
		Previous married	4	3	2	0		9	
No ofnot children	so no children	116	104	51	12	283	0.083		
	one-three children	65	97	46	11	219			
	four and above	4	14	3	0	21			
	married but no children yet	17	28	15	3	63			
Total		202	243	115	26	586			

Table 6: Relation between participants' demographic variables and anxiety

		COVID-19 FEAR			Total	P Value
		No fear	mild	sever		
age	<30 yr	127	161	75	363	0.307
	30-39 yr	40	72	22	134	
	40-49	19	29	15	63	
	≥50 yr	5	13	8	26	
gender	female	104	177	75	356	0.089
	male	87	98	45	230	

		COVID-19 FEAR			Total	P Value
job	rotator	99	135	63	297	0.356
	training dentist	16	14	10	40	
	certificated dentist	14	38	13	65	
	permanent dentist	14	10	3	27	
	GP dentist	3	8	3	14	
	master dentist	26	37	14	77	
	senior dentist	19	33	14	66	
Marital status	single	104	134	44	282	0.013
	married	82	138	75	295	
	Previous married	5	3	1	9	
No children	ofnot married so no children	105	134	44	283	0.016
	one-three children	55	107	57	219	
	four and above	7	11	3	21	
	married but no children yet	24	23	16	63	
		191	275	120	586	

Discussion

With a response rate of 90.43%; 586 dentists enrolled in this study, which considers a good response.

In the current study, at least one in four dentists report symptoms of moderated to severe anxiety; which is expected due to the major stressful condition with the COVID-19 crises, this is mostly reactionary due to their work closely to the source of infection (mouth and nose) and due to social distancing or quarantine, which they occurred at the pre- and during the study time.

COVID-19 pandemic has the potential to have a serious impact on the mental health of healthcare workers (HCWs), who stand in the frontline of the epidemic. Monitoring rates of mood, sleep, and other mental health conditions to understand mediating factors and inform targeted approaches. (11, 12, & 4) and that agreed with a study was done in Spain which found 21.6% of the sample has anxiety. (13) Another study done in Iraq by Karim, et al. 2020, found during the COVID-19 pandemic, nearly half of the respondents have anxiety. Also, being female, younger ages, holding an academic degree, or being a college student are associated with more prominent degrees of anxiety. (14)

The COVID-19 advent and implications have sparked suspicions, concern, and anxiety among people all over the world. (14) The present study used the English Version Fear of COVID-19 Scale (FCV-19S) (10); to supplements clinical efforts in preventing the spread and treating of COVID-19 cases. The current study has shown no afraid of coronavirus and shown that the negative impacts of psychological reactions and that agree with Fincher and Thornhill, 2020. (15)

Meanwhile, health care practitioners play a critical role in crisis management. Nurses, as the largest group of health care staff, spend more time than any other healthcare professionals and play a critical role in disease prevention, management, and treatment. During an outbreak of emerging diseases, all social institutions, including the patients' family members, are distanced from him/her, and it is the duty of the medical staff to take care of the patient despite the potential health risks. (16)

The present study showed that (psychological support) the higher answer "no any psychological support" in more than half, and that agree with Lai et al., 2020, (17) also in a study done by Puradollah, 2020, he found due to the increasing prevalence of the virus and also the increasing number of deaths of nurses, which can be a stressor for other nurses, it is necessary to pay attention to the mental health of nurses. (18) Stress and mental disorders can, like a vicious cycle, weaken the immune system and lead to coronavirus infection, especially where health workers with a history of mental disorders are more concerned. Health workers' mental disorders can also significantly reduce their quality of care. (19, 20)

Current study found a statistically significant relationship between gender and anxiety. Also, there is a significant relation between COVID-19 FEAR and marital status, No. of children. This is agreed with a study done at Washington State University. (21).

Limitations

Most of participants hesitated at the beginning to enroll in this study, because they were thinking it's for other than research purpose, until communication accrued with the managers of the centers and the researchers answered all the questions of the dentists, (beginning of online surveys in Iraq).

Conclusion

One-fifth of the participants dentists had moderate anxiety, and half of them had a mild fear of COVID-19 & one-fifth had a severe fear of COVID-19 with a significant relation between gender and anxiety, but not with the Fear COVID-19, Also, there is a significant relation between marital status, No. of children with the COVID-19 FEAR. So Psychological supporting courses for the dentist must be planning to be done soon and further assessment involves other health workers to find if there is a need for psychotherapy or support.

Conflicting Interests:

The authors declare that they have no competing interests.

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